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ENERGY

More Oil, More Gas and Less Driving: Predicting America's Energy Future

A new report is optimistic about continued growth in U.S. oil and natural gas production. But the future of energy is hard to predict

By [Bryan Walsh](#) @bryanrwalsh | Dec. 17, 2013 | 4 Comments

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You'd think I'd be used to it now—I've certainly been [writing](#) about it [long enough](#)—but the revolution in United States energy production is still capable of astonishing. That's the lesson I took from the Energy Information Administration's (EIA) early release of its [Annual Energy Outlook 2014](#), which was unveiled yesterday. The yearly report represents the EIA analysts' best attempt to do the impossible: predict the future of U.S. energy production and consumption. So while everything the EIA is saying should be taken with a large grain of salt, it's still amazing just how much U.S. energy production, especially in [oil](#) and natural gas, is projected to grow.



MyLoupe/UiG via Getty Images

There will be oil—so says a new report on the future of U.S. energy production

Take oil: the EIA projects that domestic oil production, buoyed by new shale developments in places like North Dakota and Texas, will keep growing at about 0.8 million barrels a day through 2016. At that point domestic production will approach the historical high of 9.6 MM bbl/d—a figure that was achieved back in 1970. Nearly all of that growth will come from shale oil—other conventional sources in the lower 48 states and Alaska are projected to remain static or continue to decline. And with consumption of liquid fuels set to drop in the years to come—a result of better auto efficiency and less driving overall—U.S. oil imports will continue to fall as well.

But oil is nothing next to the continued boom in natural gas. The EIA projects that natural gas production, led by fracking, will increase by 56% between 2012 and 2040, to 37.6 trillion cu. ft. a year. How big a shift is this? Back in 2004, when [shale gas](#) was still on the horizon, the EIA [projected](#) that the U.S. would need to [import](#) 5 trillion cu. ft. of liquified natural gas by 2025. The EIA now predicts that the U.S. will be [exporting](#) 5 trillion cu. ft. of natural gas by 2025. That's a major turnaround—as is the fact that the EIA projects that by the mid-2030s, natural gas will pass coal as the single biggest source of U.S. electricity, a title coal has owned for decades.

(MORE: [Germany's Clean Energy Revolution Hits Speed Bumps](#))

And that shift to cleaner natural gas—along with greater overall efficiency and the continued growth of carbon-free renewables—explains why the EIA projects that U.S. carbon emissions will remain below 2005 levels every year through 2040, the end point of the report. Carbon emissions would be even lower except for the fact that the reduction in coal is offset somewhat by a drop in electricity from nuclear, which doesn't produce greenhouse gases. But renewables will pick up the slack—the EIA figures that non-hydro renewables like wind and solar will more than double between 2012 and 2040, a projection many environmentalists think is conservative.

But the revolution in U.S. energy isn't just about fracking and other new forms of production. Behavior change can also alter the way we use energy. Case in point from the report: energy consumption from light-duty vehicles (cars and small trucks) will keep declining. Much of that will be the result of stricter auto efficiency standards [put in place](#) by the Obama administration, which raised fuel economy standards to 54.5 mpg by 2025. But it also reflects

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a shift in how Americans will get around. Slower population growth and changing driving behavior led the EIA to predict that vehicle miles traveled (VMT) would increase by just 0.9% per year on average between now and 2040, after years of growing far more quickly. And even that projection might be optimistic—VMT has [leveled off](#) since 2008. That's partially due to the lingering effects of the recession—more unemployed people means fewer people who need to commute—but it's also driven by the fact that fewer Americans, especially young ones, [are interested in driving](#). That's a trend that could accelerate as car sharing and Zipcar-like micro-renting options continue to proliferate.

(MORE: 40 Years After the 1973 Oil Embargo, the U.S. Is Stronger on Energy — but So Is the Middle East)

So all this means that the U.S. will be drowning in energy in the decades to come, right? Not quite. While the U.S. will keep producing more oil—though growth is expected to level off and decline by the 2020s—and should need less as it becomes more efficient, the country will still be importing huge quantities of oil for the foreseeable future. And that oil won't be cheap, as Michael Levi from the Council on Foreign Relations [points out](#):

Imported oil has traded [around](#) \$100 for much of the last several years. You need to [go back](#) to 1981 to find real average monthly oil prices over \$100 — and that lasted a whopping two months. Even if oil prices were to fall to, [say](#), \$70 a barrel, that price would be higher than it was for 346 of the 396 months between January 1974 and January 2007. If oil is so much more abundant than it was, say, a decade or two ago, why are sellers able to charge so much more for it? Real abundance means lower prices, not higher ones.

U.S. shale oil requires high prices to be profitable, along the lines of \$85 to \$90 a barrel. But while U.S. oil companies and energy-producing states like North Dakota [will benefit](#) from high-price driven extraction, the rest of us still have to suffer through expensive oil. While it's better for the economy if we produce more of that oil domestically rather than importing it, high oil prices hurt—and the shale boom is unlikely to mitigate them.

All that oil and natural gas will require a lot of drilling as well, which comes with negative environmental and social effects—even in the [boomtowns](#). Resistance—whether from environmentalists or from local property owners—could slow development, as could tougher regulations. It's best to view the EIA's projections as a best-case scenario for the future of U.S. energy production—at least from the point of view of the energy producers.

But the thing about the future is that it remains remarkably unpredictable—as a stroll through the EIA's [retrospective reports](#) show. The EIA and most other analysts missed the shale gas and oil revolution the first time around. Who knows what they might be missing now?

(MORE: America's Oil Boom Won't Make It Energy-Independent From Middle East Madness)



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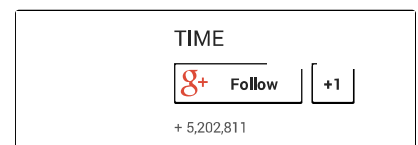


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